ABSTRACT OF THE DISCLOSURE

A communication system with a multi-channel array antenna utilizes a receiver matching process that adapts the pass band frequency response of each channel to a selected reference channel. This process is implemented digitally by inserting a tapped delay line filter in each channel, selecting one of the channels as a reference, and adapting the others to match the reference in both phase and amplitude. The process is performed for each system calibration cycle, which occurs just before receive data is captured and processed. The improvements include an apparatus and an algorithm that select a reference channel in the adaptive process during each system calibration cycle, producing optimal, or near optimal, channel matching.